Before the
**FEDERAL COMMUNICATIONS COMMISSION**
Washington, D.C. 20554

In the Matter of

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| Amendment of Parts 2 and 25 to implement the Global Personal Communications by Satellite (GMPCS) Memorandum of Understanding and Arrangements | ) | IB Docket No. 99-67 |
| Petition of NTIA to Amend Part 25 of the Commission's Rules to Establish Emissions Limits for Mobile and Portable Earth Stations Operating in the 1610-1660.5 MHZ band | ) | RM No. 9165 |

**COMMENTS OF COMSAT CORPORATION**

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## Summary

COMSAT strongly supports the Commission's initiative to implement the articles contained in the GMPCS-MoU. The Commission's action will facilitate the global transport of personal telecommunications terminals and accompanying communications services.

In brief summation, COMSAT believes that the prime focus of the GMPCS-MoU should be on terminals that users can readily carry with them, which can communicate directly with GMPCS satellites. We see no reason to exclude any kind of personal terminal, whether it is labeled as VSAT, mobile or fixed.

COMSAT endorses the FCC's proposal to "grandfather" terminals already operating in conjunction with licensed GMPCS systems, by exempting them from the FCC's certification requirement. The Commission should not require any specific traffic data filings from GMPCS operators or service providers. Nor should the Commission require GMPCS terminals authorized for use in the U.S. to have position location capabilities.

COMSAT believes that it would be inappropriate to impose E911 requirements on GMPCS, MSS or FSS systems without a great deal more study and analysis. There are a great many technical, operational, foreign relations and cost considerations that have yet to be addressed.

Finally, while we are confident that digital Inmarsat terminals meet the Commission's out-of-band emissions limits, the Inmarsat Standard-A analog terminals may not fully comply with the proposed limits in the GLONASS sub-band at 1597-1605 MHz. Nevertheless, we do not expect that Inmarsat Standard-A operations will cause harmful interference to the GNSS and we propose a way to restrict the operations of these terminals.

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**COMMENTS OF COMSAT CORPORATION**

COMSAT Corporation ("COMSAT") hereby submits its Comments in the above-captioned rulemaking proceeding ("NPRM") in which the Commission proposes to amend its Rules to facilitate the global transport of portable telecommunications terminals. The proposed Rules are designed to implement the international Global Mobile Personal Communications by Satellite ("GMPCS") Memorandum of Understanding ("MoU"), which was finalized in February 1997.[1]

[1] The U.S. Department of State, COMSAT, INTELSAT, Inmarsat and some 130 other Administrations, manufacturers, satellite operators and service providers have signed the GMPCS-MoU. The GMPCS-MoU remains open for signature. The results of this rulemaking should encourage other entities to execute the MoU and to participate within the GMPCS Arrangements.

**Introduction**

COMSAT actively participated in the drafting of the GMPCS-MoU; we strongly support the Commission's initiative to implement its articles. The Commission's action will facilitate the global transport of personal telecommunications terminals and the global availability of personal satellite communications services. As set forth in detail below, COMSAT supports a number of the Commission's proposals which will enhance service availability, while protecting authorized services from harmful radio interference.

## I. Scope of GMPCS Implementation

The Commission requests comments on whether to apply the proposals in the NPRM to GMPCS terminals associated with fixed services, such as VSATs, or used in conjunction with geostationary satellite systems in the Fixed Satellite Service ("FSS"), that do not typically transit national borders to provide mobile service.[2] In our view, the prime focus of the GMPCS-MoU should be on terminals that users

[2] NPRM at para 20. The definition of GMPCS service in the Report of the World Telecommunications Policy Forum is broad and includes any satellite system providing telecommunication service directly to end users from a constellation of satellites.

can readily carry with them, which can communicate directly with GMPCS satellites. With laptop terminals like the COMSAT Planet 1 terminal operating with the Inmarsat system, and the likely use of small laptop terminals with Ku, and, especially, Ka-band satellite systems, we see no reason to exclude any kind of personal terminal whether it is labeled as VSAT, mobile or fixed. Operators of these "personal-type" terminals should also enjoy any special arrangements which will allow them to carry GMPCS terminals across borders and to operate them as authorized.

We also agree with the Commission's proposal to distinguish hand-held or portable GMPCS terminals from other mobile terminals and to exempt mobile terminals permanently installed on ships, boats, or planes from the FCC certification requirements.[3] However, this proposal seems to be at odds with the proposal in paragraph 89 of the NPRM, where the Commission states that it is not proposing any special treatment for the Inmarsat Standard-A type terminals located onboard ships. We will further address the issue of the Inmarsat Standard-A antenna below when we discuss the technical requirements for GMPCS terminals and out-of-band emissions.

[3] *Id.* at para 24.

## II. Type Approval and FCC Certification of GMPCS Terminals

COMSAT endorses the Commission's proposal to "grandfather" terminals already operating in conjunction with licensed GMPCS systems by exempting them from the FCC certification requirement.[4] Because the Inmarsat system has been in service for many years, a large number of terminals were already in operation before the GMPCS-MoU Arrangements existed. This means that a substantial population of terminals will not have the ITU GMPCS-MoU Registry mark.

COMSAT assumes that appropriately authorized terminals operating with the Inmarsat system would come under the proposed exemption. However, the Commission does not address how these terminals would be recognized by customs officials. This particularly appears to be a problem, given the Commission's proposal to prohibit terminals not bearing the ITU mark from entering the United States.[5]

While the Commission recognizes the difficulty of

[4] *Id.*

recalling and possibly retrofitting equipment already in the marketplace, it does not address how the grandfathered terminals will be recognized for entry into the United States. Over the years, manufacturers of Inmarsat terminals have received type approvals for various types of terminals from the FCC, from other administrations and from regional authorities that can be identified by markings.

This information could be provided to the Commission and to the ITU database. As indicated by the Commission, this information could be reviewed in order to develop a list of terminals "approved for domestic use" in the United States even though they may not be FCC-certified in all cases.[6]

Unlike some GMPCS systems, the Inmarsat system features an open opportunity for any manufacturer to develop equipment meeting the Inmarsat system requirements. This equipment requires type approval by Inmarsat, and many countries, including the U.S., accept this approval without requiring any further certification.

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[5] *Id.* at para 26.

Based on the procedures proposed by the Commission, we believe that all Inmarsat terminals which have been type approved should be "grandfathered" and included on the Commission's list of terminals "approved for domestic use" in the United States without the ITU registry mark.[7] In the future, manufacturers of these terminal types could follow the GMPCS Arrangements and apply the GMPCS ITU Registry mark to their terminals.

The Commission proposes that all terminals carried into the United States as "a personal effect for transit" also be required to bear the ITU mark.[8] The Commission believes this is necessary to protect against possible harmful radio interference to other authorized services although the terminal is not intended to be operated while in the United States.[9]

Any terminal without the ITU mark would be prohibited from entering the United States altogether, even in the

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[6] *Id.*

[7] COMSAT is keenly aware of Commission licensing requirements and particular restrictions on COMSAT's U.S. domestic operations with the Inmarsat system. Here we are addressing technical issues relating to terminal type approval and FCC certification requirements necessary to avoid harmful radio interference. As the Commission points out, equipment certification does not, in itself, authorize the terminal to be used in the United States. NPRM at para. 30. Other licensing issues are addressed later in our Comments.

[8] NPRM at para. 27.

[9] *Id.*

case where a traveler does not intend to operate it in the United States but is carrying the terminal to another country where it is authorized for use. This would indicate that the ITU mark or the FCC mark would need to be on all GMPCS terminals. For existing terminals, this presents the same problem as above in recognizing terminals that are grandfathered.

In response to the Commission's request for comments on the practicality and enforceability of tracking, accessing, and disseminating information from the international registry,[10] we believe the process is too cumbersome, would cause undue delays at customs and is not necessary. In fact, the Commission is proposing to maintain at least two lists for GMPCS terminals that must bear the ITU mark to enter the United States. One list of terminals "approved for domestic use" and a second list of terminals "approved for transit." Both would bear the ITU mark, but the terminals on the latter list could not be operated in the United States. Indeed, an additional list of grandfathered terminals would also be needed, as discussed below.

[10] *Id.* at para. 27.

It is not readily apparent how a customs official would be able to determine the status of a particular terminal. A terminal bearing the ITU mark could be either approved for domestic use or approved for transit only. How would the customs official know the status of the terminal without further identification? Also, a third list of terminals would not have the ITU mark, but would have one or more other marks that could be cross-referenced to the FCC list of grandfathered terminals. It is not clear how such arrangements and those described in the NPRM can be effectively administered.[11]

While we believe that the proposed Customs-FCC database is essential to identify terminals, its development needs the active involvement of the GMPCS community and coordination with the administrator of the ITU database. We suggest that the Commission consider creation of a special task force of interested parties to develop this database.

[11] *See* NPRM at para 41.

## III. Licensing Requirements

The Commission notes that under its "blanket" license process for earth stations, it has eliminated the need to issue individual licenses for multiple identical transmitters used within the United States in conjunction with authorized mobile or fixed satellite service. We agree with the Commission's proposal to continue to follow this approach for GMPCS terminals and to issue blanket licenses to GMPCS service providers and system operators consistent with Article 2 of the GMPCS-MoU.[12]

We note that the Commission proposes to hold the licensed GMPCS service provider accountable for any reported and proven infractions of technical and operational requirements for terminals.[13] The FCC also intends to hold a U.S.-licensed GMPCS service provider liable for all transmissions in the United States that emanate from its network.[14] The Commission notes that it is the responsibility of the GMPCS system operators and

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[12] NPRM at para 28.
[13] *Id.* at para. 42.
[14] *Id.* at para. 25.

service providers not to provide service to any user in a territory where it has not been properly authorized.[15]

Certainly the licensed service providers must take all appropriate measures to ensure that user terminals comply with Commission Rules. However, we have some reservations about the limits beyond which a service provider cannot reasonably be held accountable for compliance.

For example, as the Commission is aware, the Inmarsat system has an open architecture under which many service providers compete with each other for users business. In this case, the same user terminal could be licensed to access the network of more than one service provider. Here, it is not at all clear who would be responsible for compliance with the Commission's Rules.

COMSAT, of course, can be responsible only for transmissions placed over its service network. COMSAT has no control over where its customers use their terminals. Indeed, COMSAT cannot determine where they are located in a given ocean region.

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[15] *Id.* at para. 27.

The Commission may wish to further consider the situation where ubiquitous terminals can access a multiplicity of networks with common interface standards. Nevertheless, we do not foresee an increase in radio interference problems, but only the growing difficulty of identifying the responsible party.

## IV. Access to Traffic Data

COMSAT agrees that the Commission should not require any specific traffic data filings from GMPCS operators or service providers. Exchange of traffic data among service providers when necessary and normal to settle accounts and fulfill service agreements can continue without the need for any additional reporting requirements. As the Commission suggests, these types of issues are better left to negotiations among the interested parties consistent with relevant laws, rules and regulations.[16]

Moreover, the Commission should not require GMPCS terminals authorized for use in the United States to have position location capabilities.[17] This too should be left to the marketplace to decide and to negotiations among

[16] *Id.* at paras. 35-36.
[17] *Id.* at para 98.

GMPCS service providers, and system operators. The GMPCS Arrangements recognize that existing and planned GMPCS systems will vary technically in the level of information captured by the system. The Inmarsat system today, for example, does not have position location capability, but plans to take into account the need for this capability in the future. We believe that this is consistent with the intent of the GMPCS Arrangements that all future designed GMPCS systems should be structured to provide appropriate traffic data.[18]

## V. Distress and Safety Communications and E-911 Requirements

The Commission has long been committed to the implementation of technologies needed to bring emergency assistance to wireless callers throughout the U.S. The Commission, as does COMSAT, strongly believes that ensuring prompt delivery of 911, and eventually, E911 calls without delay promotes safety of life and property.

In this proceeding, the Commission requests comment on whether to prospectively require GMPCS systems to implement

[18] GMPCS Arrangements, Specific Provisions Item C, Access to Traffic Data, sub-item 2.

their systems with E911 capabilities; on how the accuracy location requirement of Phase I would be applied, or would a Phase II-type requirement be more appropriate for MSS systems; whether FSS systems should be required to incorporate E911 capabilities; and whether to require position location capabilities be built into GMPCS user terminals.

As set forth below, COMSAT continues to believe that it would be inappropriate to impose 911 or E-911 requirements on mobile satellite operators and terminal manufacturers. However, we do believe that MSS systems should be permitted to provide U.S. 911 and E911 service and position locating services on a voluntary basis.

Despite a concerted national commitment, the basic components of the U.S. terrestrial 911 system do not yet constitute "a unified national system,"[19] and the "launch date" of April 1, 1998, for U.S. E911 services has not been met.[20] As it has taken decades to implement the U.S.

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[19] Testimony of FCC Commissioner Michael Powell before the Senate Special Comm. on the Year 2000 Problem, April 29, 1999 reported at https//www.FCC.gov.

[20] *Revision of the Commission's Rules to Ensure Compatibility with Enhanced 911 Emergency Calling Systems*, Second Report and Order, CC Docket No. 94-102, ("*Second Report and Order*") released June 9, 1999 at para. 12.

terrestrial system, and even that process is not yet complete, [21] certainly it is inappropriate to impose an E911 requirement on GMPCS, MSS or FSS systems without a great deal more study and analysis.

As an initial matter, technical and operational complexities have not yet been addressed in any detail. The gradual phase-in of the national 911 system, using cellular and PCS media, has been facilitated by their general geographical alignment with the local and regional telephone networks. This has made the routing of calls to the appropriate PSAPs manageable. In contrast, the significantly larger "footprints" of satellite beams (vis-a-vis the smaller cellular and PCS "cells") would make the routing of a 911 or E-911 call to the appropriate PSAP, among the many that may fall within the footprint, an extremely complex and costly undertaking.

Foreign relations issues also require further study. With the exception of AMSC, the existing and planned MSS systems that potentially would be affected by this rulemaking are considered to be international mobile satellite systems.[22] Most likely, the imposition of an

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[21] *See id.*

[22] These systems include Inmarsat, Ellipso, Globalstar, Iridium and ICO Global.

FCC-mandated requirement on these international systems would prompt other nations to impose national emergency message requirements raising issues about how any number of different requirements would be imposed.[23] We believe that a better approach would be to permit these international systems to voluntarily develop emergency service capabilities.

Finally, the cost impact that any requirement would have on spacecraft and user terminal manufacturers, system operators, and, ultimately, end users in terms of terminal costs and user fees has yet to be explored. As the Commission has unequivocally stated, resolving cost recovery issues is a prerequisite to E-911 deployment.[24] The Commission should make certain that the costs of any requirements are warranted by the expected benefits.

It is also important to avoid using terminology that will create unnecessary confusion. For example, the title of Section 6 in the NPRM is "Distress and Safety Communications and E-9-1-1 [sic] Requirements." The use of

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[23] There is no "international 911." With the exception of Canada, other nations have either introduced or are planning to introduce, their own national 911 type systems, but most likely with different numbers.

[24] *Revision of the Commission's Rules to Ensure Compatibility with Enhanced Emergency Calling Systems*, 11 FCC Rcd 18,676, 18,722 (1996).

"distress and safety" may be misleading to the extent that while distress and safety communications are recognized and treated in the ITU Radio Regulations for maritime and aeronautical satellite services[25], the same does not hold true for land mobile-satellite services. Yet land mobile is the primary market for the new MSS systems. In establishing the 911 service, public safety officials selected "E" --"emergency" -- to describe this service. The same generally holds true outside the United States, as well. In view of the above, COMSAT recommends that "emergency" rather than "distress and safety" be used in this proceeding.

## VI. Technical Requirements for GMPCS Terminals and Out-of-Band Emissions

In the NPRM, the Commission reviews in detail the history and development of recommendations regarding the out-of-band emissions limits for MSS terminals transmitting in the band 1610-1660.5 MHz.[26] The Commission proposes to adopt the limits recommended by NTIA (so-called "-70/-80 limits") in a time-phased approach.

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[25] ITU Radio Regulations, Chap. SVII and Articles S44 and S53. *See also,* 47 C.F.R. 47 Section 80.91.
[26] NPRM at paras. 44-97.

Based on test results and information previously provided to the Commission, COMSAT is confident that terminals licensed to COMSAT which operate in the digital mode will meet the proposed out-of-band emission limits. However, Standard-A analog terminals may not fully comply with the proposed limits in the GLONASS sub-band at 1597-1605 MHz. Nevertheless, we do not expect that Standard-A operations will cause harmful interference to the Global Navigation Satellite System ("GNSS") for the reasons given in our previous fillings. Thus, we continue to believe there is ample justification for the Commission to exempt land-based and maritime Standard-A terminals, which are of paramount importance to the GMDSS. And, of course, there would be an extraordinary cost impact on Standard-A owners, if the terminals were not grandfathered.

The NPRM makes it clear that the Commission does not propose to exempt Standard-A terminals.[27] Given the remote likelihood that any land-based Standard-A terminal would propose to operate anywhere close to U.S. airports, we believe that the Commission should reconsider the specifics of the potential interference mechanism. In this regard, the Commission could restrict operations within "exclusion zones" around airports for terminals that

[27] *Id.* at para 89.

do not comply with the limits. These exclusion zones could apply to both terrestrial and maritime use of terminals in coastal waters near airports.

The Commission's reluctance to make exceptions is understandable given the safety concerns for GNSS. However, under our proposal to exempt Standard-A terminals, the Commission will maintain control to prevent transmissions in wide enough zones around airports to prevent interference.[28]

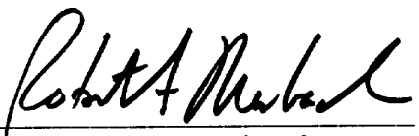
**Conclusion**

COMSAT applauds the Commission's initiative to implement the articles contained in the GMPCS-MoU. We believe the prime focus of the GMPCS-MoU should be on terminals which users can readily carry with them, which can communicate directly with GMPCS satellites. COMSAT strongly supports the Commission's proposal to grandfather terminals already operating with licensed GMPCS systems, by

[28] In any event, the Commission should grant an exception in such an instance. Thus, the NPRM proposes to exempt mobile terminals permanently installed on ships, boats or planes from the necessity of obtaining an FCC certification in conformance with technical requirements and the procedures described in Part 2 of the Commission's Rules.

exempting them from the FCC's certification process. We also believe that it is inappropriate to impose E911 requirements on GMPCS, MSS or FSS systems without additional study and analysis. While there is clearly more to accomplish, we support the Commission's overall efforts and look forward to the implementation of the rules and policies recommended in the NPRM, as reflected in our Comments.

Respectfully submitted,
COMSAT Corporation

By 
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